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AUTHOR	Lopez, Cecilia L.
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ABSTRACT

This report includes comments and recommendations from a group of consultant-evaluators at the North Central Accreditation Commission (NCA), assessing different student learning evaluation techniques utilized by 440 higher education institutions, including 162 two-year colleges. Recommendations include linking the assessment of student learning with other institutional effectiveness evaluations. Faculty participation in evaluation efforts is viewed as a necessity by NCA consultants. The hiring of an assessment administrator is also recommended in the report. The report offers methodology and measurement suggestions for assessing student learning, including subject matter pre- and post-tests, random sampling of classes to ensure reliability and validity, national standardized tests, student exit interviews, alumni surveys, employer surveys, transfer rates, and job placement data. NCA consultants report that institutions may assess students' cognitive, behavioral, and/or affective learning. The report provides a list of the traits present in higher education institutions with strong commitment and support for assessing student learning; for example, strong governing board support, campus-wide data collection office and system, and many published reports of student learning assessments. A list of traits present at institutions with weak commitment and support is also provided in the report. (MKF)

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Opportunities for Improvement:

Advice from Consultant-Evaluators on Programs to Assess Student Learning

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Cecilia L. López
Associate Director

North Central Accreditation
Commission on Institutions of Higher Education

March 1996

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Note from the Commission on the 1997 Reprint

This document was first made available last year at the 1996 Annual Meeting. Dr. López had been using and refining a typescript edition for several months before that meeting, and some who had read it encouraged its printing for broader distribution. A quick reading of the *Collection of Papers* for the 1997 Meeting suggests that it has been a useful resource to several institutions and Consultant-Evaluators. Therefore, the Commission reprints it for your use and consideration.

After careful consideration, Dr. López has decided not to update or edit the paper. In 1993-1995 most Consultant-Evaluators and the institutions they visited were at best just beginning to move from planning assessment programs to implementing them. Nonetheless, the advice provide in the document, particularly the observations and recommendations in the shaded portions, continues to be useful. However, Dr. López rightly concluded that the next generation of literature about assessment ought not to be a revised, updated version of this paper; instead, it should be rich with examples and case studies drawn from our institutions' ongoing experiences with the assessment of student learning.

Many of the formal presentations on assessment at the 1997 Annual Meeting will become the basis for that new literature. The implementation of assessment programs in the Commission's highly diverse membership highlights both those lessons that cut across all types of institutions and those that might well be applicable only to institutions of specific scope, size, and mission. In responding to the Commission's Assessment initiative many institutions discover that they are engaged in studying, if not changing, their basic educational cultures. This can be slow work. Such changes in the future most likely will be shaped by good practices and by institutional experiences with effectively conceived and well-implemented programs to assess student academic achievement.

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Opportunities for Improvement:

Advice From Consultant-Evaluators on Assessing Student Learning

In 1989 the NCA Commission approved an assessment initiative that as a first step called for its member institutions to submit plans for assessing the learning of their students at every level of study. By March 1, 1996, the assessment plans of a majority of member institutions had been reviewed by Consultant-Evaluators serving either on Assessment Plan Review (APR) panels or on on-site evaluation teams. Now that their plans have been approved through one of two means of peer review, institutions are implementing their proposed assessment programs.

As staff reviewed the comments and suggestions these groups of Evaluators had provided individual institutions on assessing student academic achievement and on using the results to improve student learning, patterns of characteristics considered to be strengths of or to raise concerns about the plans and programs began to emerge. It became clear that by analyzing a sample of the reports it would be possible to determine what had been repeatedly praised or constructively criticized during the peer reviews. Staff agreed that this information could be useful to all member institutions during the initial stages of implementation and subsequent development of their respective programs to assess student academic achievement and improve student learning.

The purpose of this paper is to provide an overview of the positive comments and useful advice Consultant-Evaluators made to several hundred NCA member institutions in Team Reports and APR forms over the last three academic years, 1993-94 to 1995-96. Staff hope you will find it helpful in sustaining or heightening the energy your campus brings to its assessment of student academic achievement and its creative application of the results of assessment to efforts to improve student learning. The study should be read with recognition that the peer Consultant-Evaluator judgments were made in light of what they accept as good professional practice in measuring student academic achievement and in using those results to make any changes needed to improve student learning.

Therefore, the findings are to be understood as being the constructive advice of peers; they should not be construed as Commission policy.

The Sample

The comments and advice that follow are based on an analysis of Team Reports from 120 comprehensive visits that occurred in 1993-94, 109 comprehensive visits in 1994-95, and on all of the assessment plan reviews carried out by APR panelists between January 1 and October 30, 1995. This paper therefore summarizes the comments of Consultant-Evaluators on assessment plans and programs made to approximately 45% (440 of 981) of all member institutions. In this sample of 440 institutions are 45.7% (162 of 354) of all 2-year colleges; 47.7% (95 of 199) of the institutions offering only the baccalaureate; 43% (103 of 239) of those that offer master degrees; 24% (5 of 21) of the institutions that offer the specialist degree, and 44.6% (75 of 168) of all doctoral degree-granting universities.

The Analysis of Team Reports and APR Reviews

The written comments from Team Reports and APR forms were coded and analyzed using the constant comparative method of qualitative research (Glaser & Strauss, 1967; Marshall & Rossman, 1989; Strauss & Corbin, 1990). Verbatim quotations from each Team Report and APR form were recorded, then coded and compared by subject content until dominant themes emerged. The subject headings that appear below under Section III, The Findings, represent the subject themes for which patterns emerged and were repeated by a majority of the Evaluators.

The Findings

A high level of internal consistency appears among Evaluators' views as to what characteristics of assessment plans and programs are considered strengths and what are causes for concern in the written comments and advice offered institutions of every type and level by both Evaluation Teams and APR panels. This finding is significant. It suggests that regardless of the year in which an evaluation was conducted and whether the evaluation was made by peer Consultant-Evaluators serving as Team members on a Comprehensive Visit or by those serving as APR reviewers reading independently, Evaluators were guided in their judgments by a common understanding of what does and does not constitute good practice in the assessment of academic achievement and the use of its results.

What follows is a summary of those complimentary and critical comments and suggestions for improvement found frequently repeated throughout the Team Reports and the forms submitted by APR panelists. Since no substantive difference was found in the comments made by Evaluators on the plans submitted by 2-year, 4-year, or graduate institutions, private or public, the observations made under each heading are relevant, and therefore can be useful, to any institution engaged in assessing student academic achievement, regardless of its type or level.

A. Mission and Goals

The assertion that institutions must link departmental and programmatic objectives for student learning with Institutional mission and goals is stated as an imperative by Team members and APR panelists in their evaluations of the assessment plans submitted by all types of institutions. Evaluators commend the assessment programs of institutions in which academic departments and programs have clearly linked their assessment activities to their own statements of purpose and goals, and to their objectives for student learning, and in which all of these are reflective of relevant portions of the institution's Mission and Goals statement and its published educational purposes.

B. The Relation Between Assessing Student Academic Achievement and Evaluating Other Aspects of Institutional Effectiveness

Evaluators stress the importance of institutions distinguishing between assessing student academic achievement and evaluating overall institutional effectiveness. In their early efforts to develop a program for assessing student learning, many institutions found it difficult to separate the evaluation of what and how much students have *learned* from the evaluation of those parts of the college or university that *enable* the students to learn. Although all institutions of higher education exist to educate students, they frequently have other secondary purposes and carry on a broad range of activities to accomplish both educational and non-educational goals. Measuring institutional effectiveness, therefore, requires that each institution first agree upon what it will consider components of institutional effectiveness and then develop an assessment program for each of those components. The program for assessing student academic achievement must be distinct and able to stand independent of interrelated and equally valuable programs for the evaluation of components of institutional effectiveness other than student learning (such as providing resources and services needed to meet the educational needs of students).

Team members and APR panelists repeatedly comment on the unfortunate effects of an institution's attempting to apply to the assessment of student learning, goals and processes appropriate to evaluating other components of institutional effectiveness but not to the measurement of student academic achievement. In sum, in order to establish strong patterns of evidence for Criterion Three, an institution's program for the assessment of student academic achievement should be an independent, clearly identifiable component of any more comprehensive program to evaluate overall institutional effectiveness.

C. Faculty Participation in Assessment of Student Learning

An important characteristic of an effective assessment program is that it be "faculty owned and driven" (i.e., that evidence be provided of active and on-going faculty participation in the planning and implementation of the program to assess student learning). Evaluators stress the necessity for the engagement of the on-campus and off-campus faculty of every academic unit in the development and operation of the assessment program. They also emphasize that the individuals or groups responsible for the assessment program should respond quickly and directly to faculty fears or ambivalence about assessing student learning.

Team members and APR panelists stress the importance of having faculty determine how information provided by the assessment program will be used to effect needed curricular change, more effective academic support services, and improvement of teaching. They urge faculty as well as administrators to insist on the development and implementation of assessment plans for all academic programs and to participate actively in both processes. Evaluators often advise administrators to provide incentives for faculty to participate in assessment activities and recognition of those who do. They also emphasize the importance of faculty involvement in determining how assessment results will be utilized to identify what is needed to improve student learning and in monitoring the effects of any changes made for the purpose of enhancing student learning to determine whether and to what extent students' academic achievement improves. In other words, Evaluators praise assessment plans and programs that are described as having emerged after extensive collegial discussion and those which reflect that a concern for improving student learning permeates the culture of the institution.

What Evaluators Typically Expect of Faculty

- awareness of any coordinated effort within their college to assess student academic achievement;
- ability to describe the key elements of the College's assessment plan or program, that is, know:
  - how the assessment program functions at the institution;
  - what role faculty play in its operation;
  - what measures and standards have been proposed and adopted for assessing student learning; and
  - how the results of assessment are to be used to identify changes that may be needed if student learning is to improve in their respective programs.

D. Linking the Results of Assessing Student Learning with Departmental and Institutional Planning and Budgeting

Evaluators cite as critical the need to link the results of student academic achievement to departmental and institutional planning and budgeting processes. They suggest that institutions clearly define the process by which requests (e.g., for personnel, curricular changes, facilities, equipment) that arise from faculty review of the results of assessment of student learning will be incorporated into the ongoing strategic planning and budgeting processes. They ask for information about what will be done to assure that requests most likely to improve student academic achievement are given appropriate priority among competing requests for limited resources.

E. Assessment Program Administration: The Chief Academic Officer

Evaluators were unanimous about the need for assessment programs to identify an individual who will be accountable for overseeing assessment throughout the institution. Evaluators are clear that committees alone cannot provide effective leadership. Moreover, they advise that when an advisory or coordinating Assessment Committee is appointed it report directly to the chief academic officer (CAO). Evaluators frequently cite modification of the CAO's job description to include responsibility for administering the program to assess student academic achievement as evidence of institutional commitment to on-going improvement in student learning.

In large institutions that have an office or person responsible for conducting institutional research, the full-time or part-time assignment of an institutional research staff member to assist the CAO with assessment is considered by many Evaluators an indication that the institution has in fact delegated authority and accountability to an officer charged with responsibility to supervise and take initiative in the assessment process and not merely "monitor" it. In small institutions without an office or officer of institutional research, other designated means of support for the CAO such as interns or faculty members assigned as part of load or service can accomplish the same ends.

F. Assessment Program Administration: The Assessment Committee

Whatever its name, Evaluators stress that the committee charged with on-going responsibility for coordinating assessment is best positioned for success when it is a joint faculty-administration standing committee with campus-wide representation. Evaluators urge that the majority of the Assessment Committee membership be broadly representative of the faculty of the institution's academic units (colleges, schools, divisions, departments, and interdisciplinary programs) and include staff from the institutional research office and the student affairs office, as well as an academic officer.

Evaluators agree that an Assessment Committee's responsibilities should include the monitoring of the implementation of the assessment plan (i.e., developing, maintaining, evaluating, and modifying as needed all assessment activities). Typically, such a committee is also responsible for efforts to educate the institution's constituent academic units about the significance of their on-going participation in the assessment process, to provide the units with any assistance they may need in obtaining bibliographies on assessment, and to train them in the selection and use of instruments and measures appropriate to the kinds of learning they want to measure. Evaluators urge assessment committees to provide ample time for academic units to meet the obligations of assessment and to allow twice the time estimated in order to carry out the work involved in collecting and analyzing the information before quantitative and narrative results can be distributed and used by faculty.

Some rather practical ideas from the comments of Evaluators about the breadth of the work of an Assessment Committee have emerged. Specifically, Evaluators propose that an Assessment Committee be delegated responsibility for following standard operating procedures for committees, providing support to all aspects of the assessment process, receiving all data and materials generated by assessment activities, recommending improvements in the assessment program, and disseminating reports on the results of assessment and the initiatives based on assessment intended to improve student leaning. Each of these responsibilities is summarized below.

Provide Support

- ◊ follow good operating practices for any committee such as publicize meetings and maintain and distribute minutes of every meeting;
- ◊ ensure that the assessment procedures and practices adopted by the Assessment Committee, faculty, and administration are professionally sound and meet the needs of the institution;

- distribute throughout the institution the names and titles of the persons and offices charged with collecting, analyzing, and disseminating assessment data, and also the process, players, and calendar to be used in acting upon assessment data.

- develop, distribute, and monitor a schedule pertaining to assessment (i.e., an assessment calendar), listing the specific dates on or by which

    - assessment instruments will be evaluated;

    - each kind of data and analysis will be submitted to the Committee;

    - the Committee will meet to review these data and analyses;

    - the Committee's summary and commentary will be transferred to a committee that has responsibility for curriculum.

- develop a Source Book containing material to help academic units develop or adopt appropriate methods for gathering the kinds of information they will need for assessment and for measuring cognitive, behavioral, and affective learning.

Review

- compile assessment results (numerical data and narrative analysis) from the institutional research office or from the academic units;

- compile suggestions or recommendations from academic units for changes to introduce for the purpose of improving student learning;

- compile assessment results received from academic units made after recommended changes have been introduced and compare them with pre-change assessment results;

- summarize and interpret results in a written progress report to the CAO, President, and Board at the end of each semester.

Recommend

- identify, prioritize, and recommend those resources needed for the coming year to maintain or improve the academic assessment program that transcend or cannot be accomplished within a given school or department;

- make recommendations to the CAO for:

    - additional assessment processes and modifications in present practices and/or process;

    - modifications in the assessment process and calendar;

    - integrating assessment and evaluation into the planning and budgeting calendar and processes at each level (institutional, college, school, division, departmental).

- have frequent, regularly issued progress reports prepared and distributed to internal constituencies;
- publish an annual report describing the year's outcomes of the assessment of student academic achievement;
- issue a report card to each academic unit at the end of each term summarizing the degree to which students are meeting their faculty's educational objectives.

G. Assessment Program Administration in Decentralized Institutions

In highly complex, decentralized universities, Evaluators find that assessment programs operated wholly through the central administration often result in the faculties of the various colleges and schools of the university being either uninformed about the results of assessment efforts, or, if informed, skeptical that the results have credibility or are relevant to students in their respective units. Evaluators therefore suggest that the Administration establish a structure appropriate to the institution's size and composition to plan and implement the assessment of student learning across academic units. Evaluators not only recommend establishing an Assessment Steering Committee, but they also urge that an assessment coordinator be appointed with full or substantial release time to handle the multiple demands of an assessment program in a large, complex institution.

Evaluators find it helpful in this type of institution for the Assessment Steering Committee and Assessment Coordinator to be assisted by college-level (or school-level) assessment coordinators, and for there to be an assessment coordinator exclusively for the General Education program as well. The relationships among these individuals and groups, and between them, the administration, and the Faculty Senate, need to be clearly stated in a document that describes the student academic achievement assessment processes and activities. This assessment document needs to explain how the steps and timetable in the Assessment Program fit into the ongoing planning and budgeting processes and timetable of the academic units and of the institution as a whole. The document should be widely distributed and discussed throughout the Board, Central Administration, and academic units so that all parties understand participants' respective responsibilities and authority and can begin to integrate assessment activities into the academic life of the institution.

H. Assessment of Student Learning in General Education

Many institutions are using the Commission's assessment initiative as the impetus for revisiting their general education philosophy and objectives and their general education requirements and courses. Evaluators agree that such a reconsideration of the general education program provides a valuable starting place for institutions preparing to undertake or revisit assessment of student academic achievement. They commend institutions that after reviewing their general education program, demonstrate a renewed emphasis in the program on critical thinking and problem-solving skills.

Evaluators frequently assert that because general education involves participation of departments university-wide, the development of a structure and timetable for the assessment of the student learning that occurs between the beginning and completion of the General Education program needs the same careful attention required when establishing assessment in a decentralized university. To be effective, assessment of general education, like assessment across schools of a university, typically requires the appointment of an individual with personal commitment and adequate time and staff support to carry out the responsibilities of coordination and leadership of the endeavor. If the General Education program does not presently

have its own written statement of purposes and objectives that flow from the institution's mission and goals statement, these should be drafted and agreed upon before a plan or program to assess student learning in general education is undertaken. If the objectives for general education are clearly stated and measurable, appropriate means for assessing the students' academic achievement can easily be found for each objective.

I. **Assessment at the Level of the Academic Unit** (College or School, Division, Department, Interdisciplinary Program, General Education Program, Major, or Graduate Degree Program)

Evaluators praise academic units' assessment plans and programs when the unit uses its own statement of purpose and educational objectives to frame its statements about the characteristics and competencies it intends its students to acquire in a given major or graduate degree program. They find it important for faculty to establish objectives for what they expect their students to learn (i.e., for faculty to define measurable learner outcomes). By measuring how much students actually do learn, faculty can then determine whether there is a gap, and if so how large a gap between their intentions and students' achievement. When faculty expectations and student performance are at odds, faculty need to determine the reasons for the discrepancy. Academic units can then make adjustments in curriculum, institutional delivery, etc., and test to determine which of those changes correlate with measurable improvements in student learning.

Evaluators stress that to accomplish the purposes of assessment, data obtained and analyzed by institutional offices or personnel need to be routinely shared with all academic units. Once faculty and academic administrators have agreed to modify specific aspects of personnel, curriculum, modes of instruction, library holdings, other academic support, equipment and facilities (to see if the change will improve student learning), their recommendations should be incorporated into the long range and annual departmental planning documents and budget requests. Evaluators note that it is important for departments to document the steps in the process and timetable they will follow to test and evaluate changes.

1. *The Link Between Assessment of Student Academic Achievement and Evaluation of Departments and Programs*

Evaluators caution that neither evaluations of teaching and other aspects of faculty performance by peers and students, nor internal and external peer reviews of departments and programs (in cases where such reviews do not include assessment of student learning as a component) are appropriate to use as measures of what students have learned in an undergraduate major or graduate degree program. In contrast, they find that the results of assessing student achievement in general education and in major or graduate degree programs over time do provide one of several valuable pieces of information to be considered when a department or program is being evaluated. Evaluators advise institutions to include in their written Program Review process one or more steps in which information generated by student academic assessment over several successive years will be included in Program Review. Linking assessment of student learning with academic program review in this way is efficient and economical. Evaluators find this integration to be a reflection of the institution's commitment both to continuous improvement of academic achievement and to strengthening academic programs at both the undergraduate and graduate levels.

2. *The Role of Specialized Accreditation in Assessing Undergraduate and Graduate Student Learning*

Teams find that undergraduate majors and graduate degree programs within departments or divisions accredited by specialized (discipline-specific) accreditation bodies typically have better developed and more comprehensive assessment plans or programs than other departments. However, APR panelists caution academic units not to rely upon specialized accreditation to provide the only incentive and means of assessing student learning or to assume that specialized accreditation is a guarantee that an assessment process is in place. Some specialized accrediting bodies measure a program's compliance with input standards but do not require that learner outcomes be compared with information on entrance knowledge; they are therefore not measuring the educational results of the program at all.

J. Providing for Communication: Feedback Loops and Reports

Comments of the Evaluators indicate that two forms of written communication exist in effective Assessment Programs: feedback loops and reporting. Feedback loops provide those who generate data and or make recommendations with timely, accurate accounts of the use the recipients have made of information and the action they have taken on recommendations. Examples the Evaluators cite include (1) an Assessment Committee or institutional research officer sends the analysis and interpretation of the assessment testing scores received from an academic unit back to that department or school; (2) an academic unit forwards its actions based on that information to the Assessment Committee and/or the committees charged with curriculum and program review.

In the second type of communication, reporting, an individual (e.g. CAO, department chair, or program director) or group (Assessment Committee, Public Relations Office, President's Office) distributes concise informational documents that present findings, interpretation of data, actions based on analyses of data, and the results of those actions to appropriate internal and external constituents. The purpose of this form of communication is to promote ownership of and support for the assessment effort throughout the institutional community.

Evaluators find that when adequate provisions for ongoing communication are in place, the results of assessing student academic achievement become the basis for faculty and academic administrators to agree upon changes that could improve student learning and are therefore important to introduce. Such changes are then used to update planning documents, and to include as proposed priority expenditures in annual budgets. For this reason Team members regularly ask institutions to describe the process by which the changes that faculty and academic administrators wish to make to improve student learning (after studying assessment data) are incorporated into the regular planning and budgeting processes of the department, the academic unit to which it belongs, and the institution.

1. Feedback Loops

In speaking of intra-institutional communication in the assessment process, Evaluators praise assessment programs that have "smooth and seamless feedback loops." They also call for institutions to define in the assessment program document at what point and by what means faculty will be authorized to introduce changes they believe that the assessment results suggest it is important to try in order to improve student learning, if such changes do not require expenditures greater than the approved departmental programmatic budget allows.

2. Reports

As indicated in the description of the recommended duties of the Assessment Committee (pp. 6-8), after data are collected, analyzed and reported to deans and faculty by the office or individual charged with those tasks, the Assessment Committee should arrange for the findings, and subsequent actions taken in response to the findings, to be fully and promptly communicated to all constituencies of the institutional community. Evaluators suggest the inclusion of three kinds of reports in the assessment program that can be an effective means of communication: Progress Reports, the Annual Report, and the Report Card.

- *Progress Reports:* Wide distribution of Progress Reports that publish the results of assessment and the changes being introduced based on that information by academic units to improve student learning were noted as one important means of keeping all parts of the institution aware of assessment activities. Regular, frequent Progress Reports can be a morale booster to faculty in the departments and programs as they engage in assessment because the results of their efforts to improve or maintain a high level of student learning are quickly brought to their attention. Indirectly, they also communicate to all constituencies the importance attached by the Board and top administration to useful and timely feedback in assessment, decision-making, planning, and budgeting.

- *Annual Assessment Report:* Evaluators find that a second valuable publication is an Annual Report on Student Academic Achievement. Like Progress Reports, the Annual Report can be an effective means of enhancing communication about assessment efforts across the entire institution. It brings the contents of the more frequent, brief Progress Reports into a single overview of student academic achievement and describes the effects of utilizing assessment results to improve learning throughout the institution.

Characteristics of an Annual Assessment Report

- includes both assessment results and responses to those assessment findings for all educational programs in the institution: General Education program, majors and minors within undergraduate departments and interdisciplinary units, and graduate degree programs within graduate colleges and schools;
- presents to the community these first findings for the educational programs within the institution together with an interpretation of their meaning;
- alerts readers to changes in educational objectives and measures for the various programs adopted by the departments and other academic units and describes the actions each has decided to take to test whether certain proposed changes will in fact improve student learning;
- informs the community on which changes introduced appear to be directly related to improved student academic achievement and which did not.

Evaluators recommend that the Annual Report be distributed to all of the institution's constituencies, including the student body and alumni, and note that the CEO and Board members often find it useful in public relations and fund raising activities.

- *Report Card:* A third type of report suggested by a number of Evaluators is the Report Card. The Assessment Committee, after each term or at the end of the academic year, issues a two-part Report Card providing information to all academic units. Part one provides information on how well their students appear to be meeting the faculty's objectives for academic achievement. Part two offers suggestions for how faculty might improve the assessment process being used in the academic unit (e.g., better measures, methodology, or more effective means for the dissemination and utilization of results).

K. Informing and Engaging Students in the Assessment of Academic Achievement

Evaluators praise assessment programs that inform students about the importance of assessment (e.g., through descriptive material in the catalog) and that inform both students and alumni in college bulletins, letters, newspapers, and other published materials about the results of tests or surveys in which they have participated. The education and participation of student leaders through membership on assessment committees is also regularly noted as a strength in the assessment process.

L. Methods and Measures

1. Terminology

The term, *Methods*, as used in this section refers to the sequence of steps, or process, followed in order to collect data. While there are a variety of methods that can be employed to study the academic achievement of students across a curriculum, one method, pre-and post testing, was most

often noted by the Consultants. The term, *Measures*, refers to the specific data collection instruments typically applied to a sample of subjects or observations.

2. *Pre- and Post-Testing*

Evaluators note that the measurement of value-added is neglected in concept and practice in many departmental assessment programs. For both graduate and undergraduate programs, results of pre-testing and post-testing were cited by Evaluators as particularly useful benchmarks by which to measure learning from entry to exit, and thereby to measure "value added."

Pre-testing is not necessary if one is highly confident that students know little or none of the content they are to master through completing the degree program (e.g., when students enter the study of medical technology). In most content areas, however, pre-testing is useful in obtaining the baseline data needed. Pre- and post-testing are effective for measuring cognitive learning, as well as for affective and behavioral learning assessment at the undergraduate level. Pre- and post-testing are especially valuable for use with undergraduate transfer students in the major programs and for students in all kinds of graduate level programs since in both situations faculty need to determine the skills and knowledge the entering student brings to a program from his/her previous study. This is as important as discovering what an entering freshman knows about general education or what a continuing student of the university knows at the point of entry into the major program. In general, faculty should not assume that the new student, whether transfer or graduate, enters a program knowing little or nothing. Only by establishing a benchmark that documents exactly what the transfer or graduate student brings to his studies in the program by way of knowledge, skills, or behaviors, can the faculty later measure the growth in the cognitive, behavioral, and affective domains that has occurred over the course of completing the major or graduate degree.

3. *Methodological Problems*

Evaluators are concerned when the description of methods in an institution's assessment program fails to specify how and when data will be collected, interpreted, and utilized, by whom, and for what end. They also identify other frequently encountered methodological problems such as the following:

Common Methodological Problems in Assessment

- inappropriate sampling;
- lack of a base line against which to assess growth and development in general education, the major, and in graduate and professional programs;
- failure to determine if measures are reliable;
- failure to determine the adequacy of measurement procedures;
- systematic bias due to reliance on one measure;
- a lack of a system to assure that instruments have content validity (i.e., measure accurately what they are designed to measure).

No Evaluator preference for quantitative over qualitative measures has been noted. Evaluators recommend that whatever measures are used, they be continually evaluated for their appropriateness and "fit" in measuring the content and extent of student learning the faculty has intended.

Finding ways to document student learning at points throughout the educational experience, not just before and after it, is recognized as one of the most difficult challenges in assessment, but one of the

most important to achieve. Therefore, practices that gather, accrue, and finally assess the cumulative evidence of the academic experience throughout the undergraduate, graduate, and professional program are cited as exemplary means of measuring learning that has taken place during completion of a program. Team members typically consider it to be a primary weakness if an assessment program lacks any specific measurement of student learning in-process (i.e., over time or at different points in time rather than at only the beginning or at only the completion of a program).

4. Direct Measures of Student Learning

Direct measures of student learning are understood to include but are not limited to:

- the capstone experience;
- portfolio assessment;
- standardized tests (e.g., Major Field Achievement Test [MFAT] in cognate areas or for General Education: the Test of Critical Thinking Ability; the Academic Profile; or the Watson-Glaser Critical Thinking Appraisal);
- performance on national licensure, certification or professional exams (e.g., Professional Assessment Examination for Beginning Teachers [PRAXIS] or the Federal Aviation Administration [FAA] exam);
- locally developed tests;
- essay questions blind scored by faculty across the department, division, school, or college;
- qualitative internal and external juried review of comprehensive senior projects;
- externally reviewed exhibitions and performances in the arts;
- external evaluation of performance during internships based on stated program objectives.

□ *The Capstone Experience.* Evaluators note that the capstone experience (course, thesis, field project, etc.) has long been recognized as providing students with an especially effective means of integrating what they have learned by the end of a program. If carefully structured and documented, it can therefore also serve as an effective assessment tool. The structure and content of the capstone experience should be clearly linked with the published statement of the purposes and educational objectives of the department or program for what their graduates are to have learned by completion of the program of study. Evaluators urge faculty who have decided to use the capstone experience as an indicator of student academic achievement to provide information in departmental assessment plans and in public documents available to internal constituents, including students, about the standards they use for evaluating student learning during and upon completion of the capstone course or project.

□ *Portfolio Assessment.* Evaluators observe that the use of student portfolios to measure student learning is found effective by academic units that utilize them. They urge academic departments that use portfolios for assessment purposes to provide evaluation protocols in departmental assessment program documents as to how the portfolios are to be reviewed (e.g., what the portfolio will include, how it will be assessed, by whom, and at what time intervals). They caution departments against permitting each faculty member to submit his/her own "protocol" for evaluating student work in her or his courses since that practice makes it impossible to gather and compare comparable data from area to area and across years.

□ *Standardized Tests.* Evaluators recommend the use of multiple measures, both quantitative and qualitative, to assess student achievement, rather than relying solely on standardized tests. Stan-

dardized tests, by their very nature, tend to be generic and not well focused on specific skills or competencies. Evaluators counsel faculty to ask themselves whether they are utilizing a standardized test simply because it is available or because it does in fact measure the specific learning faculty expect of their students. If the former is the case, faculty need to search for or create an instrument that will provide reliable and useful information to replace the standardized test they are using.

Evaluators comment on the large number of institutions that are pilot testing the use of standardized measures in order to determine the advantages of national norming and benchmark comparisons with peer institutions. Examples are the Major Field Achievement Test (MFAT) in academic disciplines, ACT's Collegiate Assessment of Academic Proficiency (CAAP), and ETS' Academic Profile. However, they note that since standardized instruments do not measure a number of cognitive areas articulated in mission and purposes statements (e.g., ethically responsible decision-making), some institutions are developing their own instruments.

APR panelists caution against using standardized tests as assessment instruments to measure learning outcomes unless the particular test selected has been found to be appropriate to the specific learning objectives it is being used to measure. Instruments such as the Graduate Record Exam (GRE), the Law School Admission Test (LSAT), the Medical College Admission Test (MCAT), or the Graduate Management Aptitude Test (GMAT) are nationally standardized tests that were originally designed, and are still utilized primarily to make decisions regarding admissions to a professional program. They are limited in their usefulness to measure student academic achievement both because not all students take these tests and because they were designed to predict performance (i.e., the likelihood of success in a specific graduate or professional degree program). Additionally, Evaluators caution that standardized measures typically do not provide data about individual students. One example is the MFAT, which provides useful aggregate data as to how students majoring in a particular discipline in one institution perform as compared with those in comparable groups in other schools. Such instruments may provide limited information about individual student learning within the specific unit's academic programs.

- *National Licensure, Certification, or Professional Examinations.* Evaluators note that scores on licensure or certification exams may be used as another indicator of academic achievement. However, Evaluators suggest that passing rates on such exams do not *per se* provide direct evidence of the level of achievement in the specific area of student competencies or skills tested. Unless licensure or certification exam scores are supplemented by information about how well students did in each of the subject matter areas covered in the exam, results are not likely to be useful to academic units that intend to use the scores as an indicator of student learning.

In sum, Evaluators find that direct measures of student learning yield useful information about the value added to a student's learning by the general education program, the major, or the graduate or professional program, especially when the results from multiple measures are triangulated and are compared with (1) baseline data and/or with (2) data from other measures taken over time.

5. *Indirect Measures of Student Learning*

Evaluators acknowledge that many sources of data if used alone are inadequate measures of student learning. However, some of these sources, when used to supplement direct measures, provide information that may enrich or illuminate aspects of what the direct measures tell us about students' academic achievement.

Evaluators consider the following as examples of indirect measures of student learning:

- alumni, employer, and student surveys;
- exit interviews of graduates and focus groups;

- graduate follow-up studies;
- retention and transfer studies;
- length of time to degree;
- SAT scores;
- graduation rates and transfer rates;
- job placement data.

M. Non-Measures

Evaluators note that information gathered on a number of forms assumed to be "measures" of student academic achievement by institutions does not in fact provide evidence of learning. One such non-measure is a questionnaire asking students if their personal goals for the course or major or program have been met. A second group of non-measures that institutions often mistakenly consider to be instruments that measure student learning are the measures and reports associated with program evaluation. Typically they collect data on the quality of curriculum and other aspects of a program. These include:

- instruments designed for specialized program review such as the Michigan Program Review of Occupational Education (PROE);
- curriculum review reports;
- evaluation reports of individual programs submitted by program-specific and specialized accrediting agencies, visiting committees, or committees of external peer experts.

The third type of non-measure of student learning is information gathered not for assessment but for specific administrative purposes:

- faculty publications and recognition;
- the kinds of courses or majors students select, including course enrollments and course profiles;
- faculty/student ratios;
- the percentage of students who study abroad;
- enrollment trends;
- the percentage of students who graduate with the baccalaureate in five years;
- the diversity of the student body.

The fourth and most frequently submitted non-measure of student learning are grades and GPAs. Evaluators regularly stress that neither grades nor GPAs are adequate or reliable measures of student learning across an undergraduate major or graduate/professional program of study. An excellent reference on this topic is by Alexander Astin, who documents in his 1991 work, *Assessment for Excellence,* that course grades and GPAs "tell us little of what the student has actually learned in the course" and "very little about what a student actually knows or what that student's competencies or talents really are" (p. 11). It is also worth noting that Pascarella and Terenzini (1991) declined to use grades or GPA as a measure of how much is learned during college, concluding that "there may be too many problems in the reliability and validity of grade point average" (p. 62). They also cite a substantial body of literature that suggests that grades may be influenced by a number of potential confounding factors within and across institutions (p. 63).

N. Measuring Student Learning Within the Three Domains

Evaluators recommend that every academic department or other academic unit determine the extent to which it actually contributes to the incremental learning of its students within the three domains: cognitive (knowledge acquisition), behavioral (skill acquisition), or affective (attitudinal development).

1. Cognitive Learning (Knowledge Acquisition)

Assuming that pre-measures of knowledge and skills in the discipline have been conducted, some examples of direct measures of cognitive learning would be: in a General Education program pre- and post-testing using a measure such as the Watson-Glaser Critical Thinking Test; in a department of music, faculty-juried exams on studio instruction; in bachelor's, master's, and doctoral programs, comprehensive exams; and in master and doctoral programs, the oral defense of the thesis or dissertation.

Evaluators note that the following do not constitute measures of cognitive learning: scores on admission tests; progress in a master's program; successful completion of a course; scores on a course exam; curriculum revisions; and commendations or recommendations received from internal or external advisory committees about the curricular design, content, currency, or rigor of programs.

2. Behavioral Learning (Skill Acquisition)

Evaluators cite a number of observable skills typically associated with this domain including group interaction skills; presentation skills; oral communication skills, particularity in group contexts; leadership; interpersonal skills; managerial skills; initiative; written communication; or problem solving skills. Examples of direct measures of incremental behavioral learning include faculty-juried recitals in music or dance; assessment of actual performance in public speaking, listening, and interpersonal communication skills (e.g., the Communication Competency Assessment Instrument [CCAI]); and pre- and post- standardized measures of general skill acquisition in the context of specific content areas such as mathematical reasoning (e.g., Academic Profile), provided the results are made available to the institution for its own students.

3. Affective Learning (Attitudinal Development)

Consultant-Evaluators find that surveys are the most common type of measure used by institutions to measure the attitudinal development of their students. While Evaluators caution institutions that the results of student, alumni, and employer surveys are not evidence of cognitive learning, they agree that the information yielded by such surveys is useful in determining change and growth in what students have gained in the affective domain. The Cooperative Institutional Research Program questionnaire (CIRP), which measures attitudes and opinions of students entering graduate programs, and the Student Goals Exploration Survey are cited as typical examples.

- *Student Satisfaction/Attitude Surveys.* Evaluators note that student-satisfaction surveys are of little or no value in assessing the incremental learning that a student has acquired during an undergraduate or graduate program. However, pre-and post-surveys that measure changes in attitudes towards values or beliefs yield important information about the attitudinal development of students.

- *Alumni Surveys.* Evaluators suggest that when an institution wants to measure the persistence of attitudinal changes in values or beliefs after graduation, it survey graduating students and alumni, in addition to utilizing other measures of growth in the affective domain. Key items on the graduating student survey could be duplicated on the alumni survey to allow for a comparison and an analysis of results. This would enable the institution to measure changes in attitude over time after graduation as well as changes occurring from matriculation to completion of the degree program.

- *Employer Surveys.* Although employer surveys do not measure cognitive leaning, Evaluators agree that employer surveys can measure skill learning (behavioral learning). An example is an employer survey that reflects how well a graduate has adapted to a given work environment, including how well the graduate fulfills the technical, organizational, or political demands made of him or her.

Irrespective of the domain, Evaluators state that academic units need to expand the means they use to determine how much and what a student has learned. They suggest that if the necessary funds, time, incentives, and opportunity for faculty development in assessment techniques are made available, faculty will be able to develop and test additional ways to measure student learning.

O. Evidence of Strong Institutional Commitment and Support for Assessing Student Learning

Evaluators identify a number of characteristics of institutional programs to assess student academic achievement that are indicators of institutional commitment.

Evidence of Strong Institutional Commitment to Assessment

- support from the governing board;
- provision of leadership of the assessment program by senior executive officers and academic administrators at all levels;
- repeated public statements about assessment as an institutional priority, and the reasons for it, by the CEO and other senior officers;
- public expressions of personal and institutional commitment to assessment of student learning and use of its results by departmental chairs and other academic administrators;
- administrative use of professional development grants and other incentives, recognition, and rewards for faculty actively involved in assessment activities at the departmental, divisional, and institutional level;
- evidence of faculty knowledge about assessment of students' academic achievement and the institution's assessment program, and of wholehearted faculty participation in each academic unit's assessment program;
- development of a standing committee, reporting directly to the CAO, on the assessment of student academic achievement;
- allocation of sufficient resources (personnel, space, equipment, and budget) to sustain ongoing assessment efforts at the institutional and academic unit level;
- incorporation of responsibility for assessment into the position description of the CAO, and assignment of the authority and resources sufficient to be effective;
- integration of the assessment process into the planning and budgeting processes of the institution so that academic units' approved plans for measuring student learning, costs associated with carrying them out, and subsequent changes the academic units wish to test to determine if they would increase student academic achievement, are routinely incorporated into academic units' plans and budget requests;

- ◊ establishment of a line for assessment costs in the annual educational and general (E & G) operating budget;
- ◊ provision for external review of assessment efforts to ensure the best possible process and use of results and to establish a high level of credibility among university and community constituents.

P. Evidence of Weak Institutional Commitment to Assessing Student Learning

Evaluators identify several characteristics of programs ostensibly intended to assess student academic achievement that reflect weak institutional commitment to assessment. The following are examples they often cite:

Evidence of Weak Institutional Commitment to Assessment

- ◊ lack of a campus-wide, systematic data collection process;
- ◊ no incentives, expectations, or "carrots and sticks" to foster faculty participation in all aspects of the program for the assessment of student academic achievement;
- ◊ no provision for a process by which ameliorative actions are to be tried when discrepancies are found between results of student academic achievement and faculty objectives for student learning;
- ◊ no process for documenting changes that have been made to improve student learning as a result of assessment efforts;
- ◊ no procedures set up to gather evidence as to whether the changes introduced correlate with actual improvements in student learning;
- ◊ no public documents, disseminated institution-wide, describing the program and explaining its value;
- ◊ no integration of the process and timetable for assessing student learning with those for planning and budgeting at the academic unit and institutional levels.

Not surprisingly, next to asking for full and prompt implementation of the assessment program, the most frequent requests APR Panelists make of institutions preparing for their next comprehensive visit have to do with correcting the just-mentioned weaknesses.

Conclusion

This paper has summarized the favorable and critical comments of peer Consultant-Evaluators who have reviewed the plans and programs for assessing student learning in a large, diverse sample of NCA member institutions. Evaluators without exception write favorably about institutions that have taken NCA's assessment initiative seriously. As professional educators they recognize that creating and sustaining a culture that supports ongoing efforts to improve students' academic achievement is essential for strengthening American higher education. Their commitment is to assuring that students as individuals and as contributing citizens and members of the national labor force receive an education of the highest possible quality.

Evaluators are consistent in expressing their disappointment that a minority of institutions are still "planning to plan" for a program to assess student learning or reveal in other ways a low regard for the assessment of student academic achievement. There is now a large and compelling body of evidence that regular assessment of student academic achievement and the use of the results to improve student learning is an effective means of assisting institutions and their students.

Evaluator comments have also shown that assessment does not necessarily require huge allocations of scarce resources, or necessitate eliminating all grass-roots assessment activities that may have arisen sporadically across an institution. To date, small or low-to-medium budget institutions have demonstrated that where there is institutional commitment to improving student learning, modest means and creativity have achieved assessment programs as effective as those in large and/or financially well-endowed institutions. Institutions need not discard their previous efforts, but can conduct incremental revisions and integration of assessment activities to reach their goals of implementing a useful program to assess student learning. Knowing that this information has been widely publicized within the academic community, team members find it difficult to understand how resistance toward assessment can persist in institutions committed to academic excellence and their own students' optimum intellectual growth.

As noted earlier, the Consultant-Evaluators' judgments of the assessment programs they evaluated did not vary overall according to the type of institution where the Consultant-Evaluator holds appointment or the type of institution evaluated: public-private, size of student body, number of years, level or kinds of degrees-awarded, level of financial resources, or geographical location. This suggests that the peer Evaluators who are drawn from the nineteen-state NCA region, collectively and as individuals share an understanding of what constitutes good practice in programs for the assessment of student learning. It also reflects an underlying agreement on the meaning and value of assessment congruent with the following recently published definition of assessment drafted by the Director of the Assessment Forum at the American Association for Higher Education and refined by educators across the nation:

> Assessment is an ongoing process aimed at understanding and improving student learning. It involves making our expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance. When it is embedded effectively within larger institutional systems, assessment can help us focus our collective attention, examine our assumptions, and create a shared academic culture dedicated to assuring and improving the quality of higher education *(AAHE Bulletin,* November, 1995, p. 7).

Significantly, as early as August 1993 NCA presaged the spirit of this proposed definition when it adopted the Commission Statement on Assessment of Student Academic Achievement that reads in part:

> ...the Commission reaffirms its objective in this assessment initiative: to encourage in its institutions excellence in the teaching provided for students and in the learning achieved by them. While its is important that an institution respond fully and accurately to a variety of public demands for accountability, an institutional program for assessing student learning should emerge from a faculty and administrative commitment to excellent teaching and effective learning *(Handbook of Accreditation, 1994-96,* p. 151).

More recently, five months before the assessment definition appeared in the November 1995 *AAHE Bulletin,* the NCA expressed virtually identical sentiments in the following statement published in the June 1995 issue of the *Briefing:*

> the Commission is committed to the concept that assessment of student academic achievement is critical to the future health of its institutions and to the public perception of higher education nationally (p. 4).

In the comprehensive visits taking place in 1995-96, Evaluation Teams have shifted their critical attention from assessment plans to the assessment programs based on those plans. Many NCA member institutions are already

using assessment in creative ways that result in benefits to students, faculty, and institutions that far exceed the demonstration of accountability mandated by national, regional, and state agencies, state coordinating or governing boards, or institutional governing boards. Each institution that responds to the call for assessment of student academic achievement seizes the opportunity to more fully achieve its unique mission and educational goals. Each measurable improvement in student learning that results from using the findings of assessment to initiate change, increases the likelihood that graduates will reach their potential and the probability that each will be prepared to make the best contribution of which he or she is capable to family, community, and the future of this nation.

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